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ABSTRACT

This Idaho secondary education curriculum guide provides lists of tasks, performance objectives, and enabling objectives for instruction intended to impart entry-level employment skills in graphics design technology. The first list states all tasks for 11 areas; separate lists for each area follow. Each task on the lists is accompanied by a student performance objective and a set of enabling objectives. The modules are as follows: (1) introduction and general knowledge; (2) graphic design; (3) typography; (4) measurement systems; (5) illustration/artwork; (6) photography; (7) video; (8) graphic design layout methods; (9) hardware; (10) software; (11) trade customs; and (12) presswork. (CML)

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Curriculum Guide for

Graphics Design Technology

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VE 249A

Curriculum Guide for

Graphics Design Technology

Idaho Division of Vocational Education

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January 1991

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Phillip Willey
Project Director

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Task List
Graphics Design Technology

MODULE 1.0 INTRODUCTION AND GENERAL KNOWLEDGE

1.1 TASK: Apply shop safety rules and procedures.

1.2 TASK: Maintain safe and healthy environment.

1.3 TASK: Demonstrate a knowledge of introductory aspects of the graphics design technology.

1.4 TASK: Describe the important changes that have developed in recent years in the graphics industry.

1.5 TASK: Classify the advantages and disadvantages of graphic design technology.

1.6 TASK: Identify employment opportunities.

1.7 TASK: Apply employment-seeking skills

1.8 TASK: Interpret employment capabilities.

1.9 TASK: Demonstrate appropriate work behavior.

1.10 TASK: Adapt to change.

1.11 TASK: Demonstrate the ability to apply critical thinking skills.

MODULE 2.0 GRAPHIC DESIGN

2.1 TASK: Describe principles of design and elements of art/design.

2.2 TASK: Compile examples that demonstrate the use of design formats.

MODULE 3.0 TYPOGRAPHY

3.1 TASK: Select a type for readability and impact.

3.2 TASK: Compose a variety of documents by using basic guidelines for font selection and page organization.

MODULE 4.0 MEASUREMENT SYSTEMS

4.1 **TASK:** Describe the measurement system(s) used in Graphics Design Technology.

4.2 **TASK:** Demonstrate the necessary measurement components of a page layout.

4.3 **TASK:** Select paper quality for printability and a production run.

4.4 **TASK:** Correlate ink types with printing purposes.

4.5 **TASK:** Correlate various tone gradation scales in relation to photographic/printing tonal scales, tints, and grays.

MODULE 5.0 ILLUSTRATION/ARTWORK

5.1 **TASK:** Produce a comprehensive layout within the assigned guidelines.

5.2 **TASK:** Evaluate a layout for form, quality and printability.

MODULE 6.0 PHOTOGRAPHY

6.1 **TASK:** Capture images on film.

6.2 **TASK:** Develop exposed film.

6.3 **TASK:** Evaluate exposed film.

6.4 **TASK:** Produce photographic print(s).

MODULE 7.0 VIDEO

7.1 **TASK:** Describe the applications for video in industrial settings.

7.2 **TASK:** Identify equipment used in industrial applications.

7.3 **TASK:** Produce a video presentation within the assigned guidelines.

MODULE 8.0 GRAPHIC DESIGN LAYOUT METHODS

8.1 **TASK:** Layout a mechanical (pasteup) using traditional tools and methods.

8.2 **TASK:** Create a page layout for a document utilizing electronic page layout software.

MODULE 9.0 HARDWARE

9.1 **TASK:** Compare the three classifications of computers.

9.2 **TASK:** Operate electronic graphic input equipment.

9.3 **TASK:** Operate computer output devices.

MODULE 10.0 SOFTWARE

10.1 **TASK:** Produce a document with a word processing program.

10.2 **TASK:** Produce a CAD (Computer Aided Drafting) document (drawing).

10.3 **TASK:** Utilize a spreadsheet that manages and calculates numeric data.

10.4 **TASK:** Utilize a database for organizing and retrieving data.

10.5 **TASK:** Create a draw type graphic for an electronically published document utilizing a vector type drawing program.

10.6 **TASK:** Create art work for an electronically published document utilizing a bitmapped graphic type paint program.

10.7 **TASK:** Create art work utilizing specialized computer programming. For example: calendar, sign, banner, certificate, poster, flyer, cards.

10.8 **TASK:** Create a presentation document using hypermedia software.

MODULE 11.0 TRADE CUSTOMS

11.1 **TASK:** Gain an understanding of the common trade customs in the Graphic Design Industry.

MODULE 12.0 PRESSWORK

See State Curriculum Guide on Printing / Graphic Arts.

MODULE 1.0 INTRODUCTION AND GENERAL KNOWLEDGE

1.1 TASK: Apply shop safety rules and procedures.

PERFORMANCE OBJECTIVE: Given examples of printing jobs and print shop situations, apply safety rules and procedures by identifying safe and unsafe shop practices.

ENABLING OBJECTIVES:

1. Describe the importance of machine guards and personal protection.
2. Describe a plan for fire prevention within a printing plant and trace on the floor plan fire evacuation routes.
3. Describe the correct handling and storage of chemicals and other hazardous materials.
4. Summarize basic safety procedures.
5. Describe proper noise control in the plant.

1.2 TASK: Maintain safe and healthy environment

PERFORMANCE OBJECTIVE: Given the responsibility of an employee in a new job, demonstrate you knowledge of safety in the work place.

ENABLING OBJECTIVES:

1. Comply with safety and health rules.
2. Select correct tools and equipment.
3. Utilize equipment correctly.
4. Use appropriate action during emergencies.
5. Maintain clean and orderly work area.
6. Demonstrate personal hygiene and cleanliness.
7. Identify and locate Material Safety Data Sheets (MSDS).

1.3 TASK: Demonstrate a knowledge of introductory aspects of the graphics design technology.

PERFORMANCE OBJECTIVE: Given the appropriate historical information, the student will determine important events that have shaped graphics design technology.

ENABLING OBJECTIVES:

1. Trace the evolution of ink by identifying significant events:
2. Trace the evolution of substrates by identifying specific events.
3. Trace the evolution of printing processes by identifying significant events.
4. Trace the evolution of photographic processes by identifying specific events.

5. Correlate the development of inks, substrates, printing and photographic processes.

1.4 **TASK:** Determine the important changes that have developed in recent years in the graphics industry.

PERFORMANCE OBJECTIVE: Given a time line, describe the time periods and events that have led to the development of present day graphics design technology.

ENABLING OBJECTIVES:

1. Explain the important role of graphics in our technological society.
2. Identify the major processes commonly associated with the graphic design technology.
3. Analyze the various reproduction processes.
4. Analyze the various methods of image capture.
5. Describe how the microcomputer has effected the graphics design technology.
6. Project on the future of computer usage in the graphics industry.

1.5 **TASK:** Classify the advantages and disadvantages of graphic design technology.

PERFORMANCE OBJECTIVE: Given a list of applications of graphics design technology, the student will determine each as being an advantage or disadvantage.

ENABLING OBJECTIVES:

1. List the advantages of graphics design technology.
2. List the disadvantages of graphics design technology.

1.6 **TASK:** Identify employment opportunities.

PERFORMANCE OBJECTIVE: Given the information resources of a library, obtain and compile the information needed to obtain a job.

ENABLING OBJECTIVES:

1. Identify the requirements for a job or occupation.
2. Investigate educational opportunities.
3. Investigate occupational opportunities.
4. List resources for finding employment.
5. Interview with prospective employers

6. Identify job trends.

1.7 **TASK:** Apply employment-seeking skills

PERFORMANCE OBJECTIVE: Given appropriate information and a simulated situation, locate a job opportunity, prepare and take an interview, complete the required tests, forms and applications, and evaluate a job opportunity.

ENABLING OBJECTIVES:

1. List items to be included on a resume.
2. Write a resume.
3. List steps in preparing for an interview.
4. Interview with a prospective employer.
5. Evaluate a job offer.
6. Evaluate a job rejection.

1.8 **TASK:** Interpret employment capabilities.

PERFORMANCE OBJECTIVE: Given the assignment to explain employment capabilities, demonstrate how to match skills and experience to a job.

ENABLING OBJECTIVES:

1. Match interests to the job.
2. Match aptitudes to the job.
3. Identify immediate work goals.
4. Develop a career plan.

1.9 **TASK:** Demonstrate appropriate work behavior.

PERFORMANCE OBJECTIVE: Given the responsibility of an employee in a new job, demonstrate knowledge of behavior in the work place.

ENABLING OBJECTIVES:

1. Explain why dependability is critical to employment.
2. Explain why punctuality is critical to employment.
3. Explain the consequences of dishonesty.
4. Describe how emotional constraint is needed in the work environment.
5. Demonstrate ability to set priorities.
6. Demonstrate problem solving skills.

1.10 **TASK:** Adapt to change.

PERFORMANCE OBJECTIVE: Demonstrate a knowledge of how to adapt to change.

ENABLING OBJECTIVES:

1. List the elements of change.
2. Describe why it is important to recognize the need to change.
3. Describe how flexibility can effect a person's job opportunities.

1.11 **TASK:** Demonstrate the ability to apply critical thinking skills.

PERFORMANCE OBJECTIVE: Given the appropriate information and sample models, the student will use basic thinking skills to react in a positive way to critical situations.

ENABLING OBJECTIVES:

1. Evaluate, using the critical thinking process, the pros and cons of social, economic and personal decisions.
2. Demonstrate creative thinking skills by looking at situations from different perspectives and applying the known to the unknown.
3. Use a problem solving model to investigate possible solutions for various problems.
4. Apply decision making skills by researching and evaluating the information pertaining to a given situation.
5. Demonstrate efficiency in using effective communication and learning skills using the following examples:
   a. Reading
   b. Writing
   c. Listening
   d. Speaking
   e. Following directions
   f. Organization
   g. Cooperation

MODULE 2.0 GRAPHIC DESIGN

2.1 TASK: Describe principles of design and elements of art/design.

PERFORMANCE OBJECTIVE: Given a variety of examples, the student will be able to differentiate between the principles of design and the elements of art/design.

ENABLING OBJECTIVES:

1. Explain design principles.
2. Sketch examples of the design principles.
3. Identify elements of design/art.
4. Demonstrate the proper use of the elements of design/art.

2.2 TASK: Compile examples that demonstrate the use of design formats.

PERFORMANCE OBJECTIVE: Given an appropriate background of formatting traditional and electronic design formatting techniques the student will compile examples.

ENABLING OBJECTIVE:

1. Identify the elements of design formatting based on the physical size limitations of the example being used.
2. List the elements used in design.
3. Locate specific elements of design on various drawings.
4. Match terms associated with design elements with correct definitions.

MODULE 3.0 TYPOGRAPHY

3.1 **TASK:** Select type for readability and impact.

PERFORMANCE OBJECTIVE: Given the necessary guidelines of type purpose, the student will be able to apply the guidelines.

ENABLING OBJECTIVES:

1. Distinguish between the two main design features of Serif and Sans Serif type.
2. Describe the difference between display faces and text faces.
3. Match typeface terminology terms with correct definitions.
4. Arrange in order of readability five various text fonts.
5. Arrange in order of readability five various display fonts.
6. Match typographic composition terms with correct definitions.
7. Compare graphic design typesetting terms.

3.2 **TASK:** Compose a variety of documents by using basic guidelines for font selection and page organization.

PERFORMANCE OBJECTIVE: Given the necessary computer hardware and appropriate software, the student will create documents by using:

a. Typographic hierarchy rules
b. Font selection guidelines
c. Page organization recommendations.

ENABLING OBJECTIVES:

1. Construct the proper typographic hierarchy for a specific job.
2. Type variations for various components of a page of text to their application.
3. Modify the body text and variations by changing two or more components of type.
4. Describe how to choose a text font for ease of readability.
5. Select an appropriate font for headings.
6. Describe the reason for minimizing use of font families, sizes, and styles.
7. Discuss the use of simple text for charts, graphs, and tables.
8. Develop a layout plan that reflects the importance of the chosen document elements.
9. Develop the layout for reinforcement of specific document ideas versus appearance only.

MODULE 4.0 MEASUREMENT SYSTEMS

4.1 **TASK:** Describe the measurement system(s) used in Graphics Design Technology.

PERFORMANCE OBJECTIVE: Describe the various measurement principles for type and line to prepare copy in an effective/efficient manner.

ENABLING OBJECTIVES:

1. Define the term "point" for measurement of type.
2. Equate the point with an equivalent inch size.
3. Define the term "pica" for measurement of type.
4. Compare the pica with equivalent inch and point sizes.
5. Define the term "em" for measurement of type.
6. Compare the "em" measurement with point size.
7. Define the term "en" for measurement of type.
8. Compare the "en" measurement with the "em" and point sizes.
9. Define line leading for measurement of type.
10. Correlate line leading and line spacing.
11. Correlate characters per inch (cpi) and dots per inch (dpi).

4.2 **TASK:** Describe the necessary measurement components of a page layout.

PERFORMANCE OBJECTIVE: Describe the elements needed to integrate text and graphics into an appropriate page layout and construct a finished two page layout.

ENABLING OBJECTIVES:

1. Define margin in terms of inches, picas and or points.
2. Measure examples of column inches.
3. Describe live area in terms of percent of page.
4. Construct headers and footers to a determined size.
5. Determine page gutter sizes.
6. Compare right-hand and left-hand page measurements.
7. Construct a finished two-page spread.

4.3 **TASK:** Select paper quality for printability and a production run.

PERFORMANCE OBJECTIVE: Given a design job, select the paper to be used to ensure quality printing for the desired application.

ENABLING OBJECTIVES:

1. Classify paper stock.
2. Apply paper stock selection criteria.

3. Contrast structural and visual properties of paper.
4. Define terms relating to paper measurement.

4.4 **TASK:** Correlate ink types with printing purpose.

PERFORMANCE OBJECTIVE: Given the necessary information concerning ink type, purpose, and components, correlate ink type with printing purpose to ensure quality printing results.

ENABLING OBJECTIVES:

1. Describe the three components of ink.
2. State the purpose of ink components.
3. Define terms relating to ink measurement.
4. Classify ink color terms.
5. Create a nine color color wheel from the primary colors.
6. Compare ink type with printing processes.

4.5 **TASK:** Correlate various tone gradation scales in relation to photographic/printing tonal scales, tints, and grays.

PERFORMANCE OBJECTIVE: Given the proper information, appropriate materials and equipment, the student will differentiate between screen sizes and effects, plus tonal scaling accomplished via electronic means.

ENABLING OBJECTIVES:

1. Identify via the appropriate lens, various gray scales from 10% to 100%.
3. Compare gray scales to a designated halftone print.
4. Prepare a detailed list/order of operations for making a halftone negative.
5. Select a computer drawn graphic and utilize the appropriate software to alter the original shading of the chosen graphic.
6. Incorporate design knowledge and screening knowledge to create a computer-created design.

MODULE 5.0 ILLUSTRATION/ARTWORK

5.1 **TASK:** Produce a comprehensive layout within the assigned guidelines.

PERFORMANCE OBJECTIVE: Given preplanning information, the student will utilize proper techniques for producing a comprehensive layout.

ENABLING OBJECTIVES:

1. Identify the steps needed in preplanning the layout.
2. Discuss the following with regards to the layout.
   a. Audience
   b. Objective
   c. Tone
   d. Style
   e. Size
   f. Format
3. List the materials required to produce a layout.
4. Create several thumbnail sketches.
5. Select one thumbnail sketch or a combination of sketches to create a rough layout.
6. Critique the rough layout.
7. Develop a comprehensive layout.
8. Evaluate the comprehensive layout with the instructors assistance.

5.2 **TASK:** Evaluate a layout for form, quality, and printability

PERFORMANCE OBJECTIVE: Given several layouts, the student will select a printable copy.

ENABLING OBJECTIVES:

1. Define components of a printable layout.
2. Describe the procedure for developing a comprehensive layout.
3. Evaluate a layout for its printability.

MODULE 6.0 PHOTOGRAPHY

6.1 **TASK:** Using proper photographic techniques, capture images on film.

PERFORMANCE OBJECTIVE: Given appropriate information, camera and materials, the student will capture an image for a given assignment.

ENABLING OBJECTIVES:

1. List basic camera components.
2. Explain the function of basic camera components.
3. Discribe proper camera handling techniques.
4. Correlate film use with film type.
5. Discribe proper film care and handling.
6. Explain various photographic techniques.
7. Demonstrate various photographic techniques.
8. Describe various photographic equipment accessories.
9. Demonstrate proper use of various photographic equipment accessories.
10. Capture a series of assigned images on film.

6.2 **TASK:** Develop exposed film.

PERFORMANCE OBJECTIVE: Given the necessary exposed film and equipment, the student will safely develop exposed film.

ENABLING OBJECTIVE:

1. Adhere to stated safety procedures.
2. Identify basic film developing equipment.
3. Explain the use of basic film developing equipment.
4. Describe proper film developing techniques.
5. Develop exposed film.
6. Evaluate negative for proper exposure and development
7. Prepare negatives for storage and handling.

6.3 **TASK:** Produce photographic prints.

PERFORMANCE OBJECTIVE: Given proper instruction, equipment, and developed negative, the student will produce properly exposed photographic prints.

ENABLING OBJECTIVE:

1. Identify darkroom equipment used to produce a print.
2. Explain the use of darkroom equipment and procedures for producing a print.
3. Describe darkroom procedures.
4. Expose photographic prints.

MODULE 7.0 VIDEO

7.1 TASK: Describe the applications for video in industry settings.

PERFORMANCE OBJECTIVE:

ENABLING OBJECTIVE:

1.

7.2 TASK: Identify equipment used in industry applications.

PERFORMANCE OBJECTIVE:

ENABLING OBJECTIVE:

1.

7.3 TASK: Produce a video presentation within the assigned guidelines.

PERFORMANCE OBJECTIVE: Given preplanning information, equipment and proper techniques, the student will produce a video presentation.

ENABLING OBJECTIVE:

1. Identify the steps needed in preplanning.
2. Discuss storyboarding techniques.
3. Develop storyboard.
4. Discuss the various elements of a video presentation.
5. Identify materials needed for the shot.
6. Select or design the environment needed for the shot.
7. Shoot a video presentation.
8. Review and edit the video presentation.
9. Make final copy of video presentation.
10. Describe additional techniques for producing a video.

MODULE 8.0 GRAPHIC DESIGN LAYOUT METHODS

8.1 **TASK:** Layout a mechanical (pasteup) using traditional tools and methods.

PERFORMANCE OBJECTIVE: Given traditional layout tools, equipment, the comprehensive, and items for layout, the student will prepare a mechanical.

ENABLING OBJECTIVES:

1. List all required components to be pasted on a mechanical.
2. Explain the use of all required components to be attached on the mechanical.
3. Demonstrate the placement of components on the mechanical.
4. Compare and proof the mechanical to the comprehensive.

8.2 **TASK:** Create a page layout for a document utilizing electronic page layout software.

PERFORMANCE OBJECTIVE: Given the appropriate computer hardware, desktop publishing/layout software, thumbnail and layout sketches, the student will assemble document components (text, photos, artwork, illustrations) into a page layout.

ENABLING OBJECTIVES:

1. Describe components of a computer system.
2. Describe the procedures for using a software program.
3. List the components needed to produce an electric layout.
4. Create an electronic layout (mechanical) & print to hard copy
5. Compare electronic layouts to manual procedures.

MODULE 9.0 HARDWARE

9.1 **TASK:** Compare the three classifications of computers.

PERFORMANCE OBJECTIVE: Given the appropriate information, the student will identify the characteristics of each computer classification, their care and maintenance.

ENABLING OBJECTIVES:

1. Describe the differences between mainframe, mini, and mirco computers.
2. List the main advantages between the various sizes of computers.
3. Describe the care and maintenance that should be given to computers.

9.2 **TASK:** Operate electronic graphic input equipment.

PERFORMANCE OBJECTIVE: Given microcomputer, software, printer, scanner, digital input device, CD-ROM, the student will connect all pieces of equipment together for proper usage.

ENABLING OBJECTIVES:

1. Identify electronic input devices.
2. Describe the procedures for connecting a printer, CD-ROM, and scanner to a computer.
3. Describe the process of scanning.
4. Scan a photograph or original art work into computer.
5. Save a scanned image for future use in an electronic pasteup.
6. Retrieve information from a floppy and hard disk drive attached to a computer.
7. Describe the procedure for manipulating a mouse.
8. Use the keyboard to input text into the computer.
9. Capture a photograph by the computer from a still video digital camera or from a standard video camera.
10. Describe the procedure for setting up a modem
11. Operate a modem to capture text or graphics.
12. Demonstrate the correct procedure for shutting down a computer.

9.3 **TASK:** Operate computer output devices.

PERFORMANCE OBJECTIVE: Given equipment for outputting information from a computer, the student will select and use the proper output device for the task.

ENABLING OBJECTIVES:

1. Identify computer output devices.
2. Describe procedures for outputting data from a computer system.
3. Save information to a floppy and hard disk drive.
4. Print using appropriate printers.
5. Plot drawings.
6. Operate a modem to send text or graphics.
7. Demonstrate the use of an overhead projector and LCD unit/large screen projector unit.
8. Use the computer as a titling device.

MODULE 10.0 SOFTWARE

10.1 TASK: Produce a document with a word processing program.

PERFORMANCE OBJECTIVE: Given the appropriate computer hardware, designated word processing software program, the student will produce a error free hard copy document.

ENABLING OBJECTIVES:

1. Enter text for the document with proper keyboarding skills.
2. Explain the techniques required to produce error free copy.
3. Demonstrate the techniques required to produce error free copy.
4. Save a created document file on formatted storage disk for future use.
5. Demonstrate the correct set-up and use of a computer driven printer.
6. Produce an error free hardcopy of a document.
7. Demonstrate the correct procedure for shutting down a computer when a word-processing software program has been utilized.

10.2 TASK: Produce a CAD (Computer Aided Drafting) document (drawing).

PERFORMANCE OBJECTIVE: Given the necessary computer hardware and appropriate CAD software, the student will produce a drawing.

ENABLING OBJECTIVES:

1. Create a preassigned drawing using proper CAD drawing/drafting techniques.
2. Explain the use of the various tool palettes.
3. Demonstrate the use of the various tool palettes.
4. Explain the use of the various CAD menu commands.
5. Demonstrate the use of the various CAD menu commands.
6. Demonstrate the proper use of a scale grid to produce an accurate drawing.
7. Save a created drawing file on an formatted storage disk for future use.
8. Demonstrate the correct set-up and use of a computer driven output device.
9. Produce an error-free hardcopy of a drawing.
10. Demonstrate the correct procedures for shutting down a computer when a CAD software program has been utilized.

10.3 **TASK:** Utilize a spreadsheet to manage numeric data.

PERFORMANCE OBJECTIVE: Given the appropriate computer hardware, coupled with a designated spreadsheet software program, the student will produce a error free, hard copy document.

ENABLING OBJECTIVES:

1. Explain the design of spreadsheet using rows and columns.
2. Create a spreadsheet of rows and columns.
3. Demonstrate the ability to enter data with appropriate keyboarding skills.
4. Demonstrate the ability to edit spreadsheet data.
5. Demonstrate the ability to insert rows and columns into a spreadsheet
6. Demonstrate the ability to duplicate, format and calculate data in a spreadsheet.
7. Illustrate how a single entry change signals/creates an overall change in the total document.
8. Demonstrate the correct set-up and use of a computer driven printer.
9. Save the document file on formatted storage disk for future use.
10. Produce an error free hardcopy of the spreadsheet document.
11. Demonstrate the correct procedure for shutting down a computer when a spreadsheet software program has been utilized.

10.4 **TASK:** Utilize a database for organizing and retrieving data.

PERFORMANCE OBJECTIVE: Given the appropriate computer hardware, coupled with a designated data base software program, the student will design, create, and utilize a database.

ENABLING OBJECTIVES:

1. Design the necessary fields for organizing data.
2. Enter the appropriate data using proper keyboarding skills.
3. Demonstrate the ability to insert, delete, and modify the database records.
4. Demonstrate the ability to sort and retrieve data.
5. Save the database document on an initialized storage disk for future use.
6. Demonstrate the correct set-up and use of a computer driven printer.
7. Produce an error free hard copy report based on the entered data.
8. Demonstrate the correct procedure for shutting down a

computer when a database software program has been utilized.

10.5 **TASK:** Create a graphic illustration for an electronically published document utilizing a vector type drawing program.

PERFORMANCE OBJECTIVE: Given the appropriate computer hardware, with vector type drawing software, the student will create an illustration appropriate for the published document.

ENABLING OBJECTIVES:

1. Determine the best drawing tool supplied with the program to use for the creation of the illustration.
2. Draw text and other graphic components.
3. Revise and edit rough draft.
4. Save the illustration on a formatted storage disk for future use.
5. Print final draft.
6. Demonstrate the correct procedure for shutting down a computer when draw type program has been utilized.

10.6 **TASK:** Create art work for an electronically published document utilizing a bitmapped graphic type paint program.

PERFORMANCE OBJECTIVE: Given the appropriate computer hardware, with bitmapped drawing software, the student will create artwork appropriate for the published document.

ENABLING OBJECTIVES:

1. Determine the best drawing tool supplied with the program to use for the creation of the artwork.
2. Draw text and other graphic components.
3. Revise and edit rough draft.
4. Save the artwork on a formatted storage disk for future use.
5. Print final copy.
6. Demonstrate the correct procedure for shutting down a computer when a paint type program has been utilized.

10.7 **TASK:** Create customized art work utilizing specialized computer programming.

PERFORMANCE OBJECTIVE: Given the appropriate computer hardware, with specialized software, the student will create a customized document. For example: calendar, sign, banner, certificate, poster, flyer, cards.

ENABLING OBJECTIVES:

1. Determine the best drawing tool supplied with the program to use for the creation of the artwork.
2. Revise and edit the rough draft.
3. Save the document on a formatted storage disk for future use.
4. Print final copy.
5. Demonstrate the correct procedure for shutting down a computer when a specialized type program has been utilized.

10.8 **TASK:** Create a presentation document using a hypermedia software.

PERFORMANCE OBJECTIVE: Given the appropriate computer hardware, with hypermedia software, the student will create a document (file) to be used in an electronic presentation.

ENABLING OBJECTIVES:

1. Describe the procedure for creating an electronic presentation.
2. Create a "stack" of card files.
3. Enter text and other graphic components.
4. Revise and edit a stack.
5. Save the stack on a formatted storage disk for future use.
6. Demonstrate the correct procedure for shutting down a computer when a hypermedia program has been utilized.

MODULE 11.0 TRADE CUSTOMS

11.1 **TASK:** Gain an understanding of the common trade customs in the Graphic Design Industry.

PERFORMANCE OBJECTIVE: Given the knowledge of the federal copyright law, the student will apply the common trade customs in the Graphic Design field.

ENABLING OBJECTIVES:

1. Research and analyze the copyright laws as they apply to the graphics industry.
2. Apply proper proofreading techniques.

MODULE 12.0 PRESSWORK

See State Curriculum Guide on Printing/Graphic Arts.

Supplementary Materials for Graphic Design Technology

The following supplementary information relates directly to the tasks identified. (Note: not every task will include additional information). The following items are procedural steps to enhance the teaching process. They are not tasks, so they are not included in the preceding task sheets. However, these items are being provided to give additional insight for the instructor.

Example:
The task below is to analyze the various reproduction processes in graphic arts. The additional list will assist the instructor in making sure all possible processes are discussed.

Supplementary Teaching Materials

1.3 **TASK:** Demonstrate a knowledge of introductory aspects of the graphics design technology.

1. Trace the evolution of ink by identifying significant events:
   a. Period of time the development took place.
   b. Culture where the development took place.
   c. Other specific contemporary inventions to help pinpoint the development on a time line.
2. Trace the evolution of substrates by identifying specific events:
   a. Period of time the development took place.
   b. Culture where the development took place.
   c. Other specific contemporary inventions to help pinpoint the development on a time line.
3. Trace the evolution of printing processes by identifying significant events:
   a. Period of time the development took place.
   b. Culture where the development took place.
   c. Other specific contemporary inventions to help pinpoint the development on a time line.
4. Trace the evolution of photographic processes by identifying specific events:
   a. Period of time the development took place.
   b. Culture where the development took place.
   c. Other specific contemporary inventions to help pinpoint the development on a time line.
5. Correlate the development of:
   a. Inks
   b. Substrates
   c. Printing processes
   d. Photographic processes

1.4 **TASK:** Describe the important changes that have developed in recent years in the graphics industry.

3. Analyze the various reproduction processes in graphic arts.
   a. Letterpress
   b. Offset
   c. Gravure
   d. Lithography
   e. Screen
   f. Flexography
   g. Electronic.
4. Analyze the various methods of image capture:
   a. Films
   b. Cameras
   c. Electronic
   d. Digital.

1.7 **TASK:** Apply employment-seeking skills

3. List steps in preparing for an interview:
   a. Locate a job opening.
   b. Complete a resume.
   c. Prepare for an interview
   d. Participate in an interview
   e. Complete test required
   f. Complete forms required
   g. Complete an application letter
5. Follow-up procedure
   a. Complete a follow-up letter
   b. Complete an acceptance letter.

2.1 **TASK:** Describe principles of design and elements of art/design.

1. Explain the following design principles.
   a. Balance
      1. Formal
      2. Informal
   b. Proportion
      1. Dynamic symmetry
      2. Golden section/Rule of thirds
   c. Unity
   d. Rhythm
   e. Variety
   f. Emphasis
   g. Movement
2. Sketch an example of the following design principles.
   a. Balance

1. Formal
2. Informal

b. Proportion
1. Dynamic symmetry
2. Golden section/Rule of thirds

c. Unity
d. Rhythm
e. Variety
f. Emphasis
g. Movement

3. Identify the following elements of design/art.
a. Line
b. Shape/Form
c. Texture
d. Color
e. Space

4. Demonstrate the proper use of the elements of design/art.
a. Line
b. Shape/Form
c. Texture
d. Color
e. Space

2.2 TASK: Compile examples that demonstrate the use of design formats.

2. List the elements used in design.

a. Direction
b. Headlines/headers
c. Kickers
d. Gutters/alleys
e. Reduction/enlargement
f. Justification
g. Columns
h. Captions
i. Page numbering
j. Signatures
k. Footnotes
l. Margins
m. Grids
n. Type block/body text
o. Guides
p. Overline
q. Deck
r. Stickup cap
s. Continue line
t. Folio
u. Picture window
v. Running footer
w. Wrap around
x. Subhead
y. Side bar
z. Drop cap
aa. Screen
bb. Rule
cc. Pulled quote
dd. Running head
ee. Call out
ff. Leader
gg. Dingbat
hh. Bleed
ii. Paper trim
jj. Trim line
kk. Bulleting
ll. Vertical/horizontal
mm. Landscape/portrait
nn. Tall/wide
oo. Tiling

3.1 TASK: Select type for readability and impact.

3. Match typeface terminology terms with correct definitions.
   a. Ascender
   b. Baseline
   c. Counter
   d. Descender
   e. Capline
   f. Meanline
   g. Point
   h. Pica
   i. Meanline
   j. X-height
   k. Ligature

6. Define the following typographic composition terms.
   a. Type face
   b. Italics
   c. Composition
   d. Letter spacing
   e. Word spacing
   f. Leading
   g. Em space
   h. En space
   i. Quad
   j. Slug
   k. Font
   l. Family

7. Compare graphic design typesetting terms and meanings.
   a. Type family (traditional)
   b. Type front (traditional)
   c. Font (electronic)
   d. Style (electronic)
   e. Weight (electronic)
   f. Width (electronic)
   g. Slant (either or both)
   h. Ligature (either or both)

3.2 TASK: Compose a variety of documents by using basic guidelines for font selection and page organization.

1. Construct the proper typographic hierarchy for a specific job.
   a. Typeface
   b. Size
   c. Style for the document body copy.
2. Specify type variations for such items as:
   a. Headline and/or chapter titles
   b. A-level subheads
   c. B-level subheads
   d. Bullets
   e. Sub-bullets

f. Caption heads (title of graphics)
g. Caption text

3. Modify the body text and variations by changing two or more of the following:
   a. Font---often a sans serif/serif switch.
   b. Size--larger or smaller by at least two points.
   c. Weight or style--variations of bold, italic, small caps, etc.
   d. Indentions--tabbing three, four, or five spaces.
   e. Spacing--before and/or after.
   f. Design elements---bullets, boxes, rules.

4.3 TASK: Select paper quality for printability and a production run.

1. Classify paper stock as to:
   a. Book
   b. Writing (business)
   c. Cover
   d. News
   e. Bristol
   f. Art

4. Match terms relating to paper measurement for correct definition.
   a. Ream
   b. Stock
   c. Size
   d. Basis Weight
   e. Calendering
   f. Coated Stock
   g. Uncoated Stock
   h. Watermark
   i. Caliper
   j. Bulk
   k. Grain
   l. Fillers
   m. Sizing
   n. Smoothness
   o. Electrical Properties
   p. Opacity
   q. Gloss
   r. Permanence and pH
   s. Tone Adherence

4.4 TASK: Correlate ink types with printing purpose.

3. Explain the various terms relating to ink measurement:
   a. Viscosity
   b. Tack
   c. Length
   d. Opacity
   e. Transparency
   f. Permanence
   g. Fugitive
   h. Resistant
   i. Lakes
   j. Toners
   k. Job inks
   l. Halftone Inks
   m. Metallic Inks
   n. Water Color

4. Classify the following ink color terms:
   a. Primary
   b. Secondary,
   c. Intermediary

5. Create a given color wheel from primary colors (red, yellow, blue) into nine other colors (red-orange, orange, yellow-orange,

yellow-green, blue-green, blue-violet, violet, red-violet).

6. Compare ink type with printing processes
   a. Letter press
   b. Lithography
   c. Screen processes
   d. Specialty

6.1 TASK: Capture images on film.

6. Explain various photographic techniques.
   a. Depth of field
   b. Bracketing
   c. Panning
   d. Time sequences
7. Demonstrate various photographic techniques.
   a. Depth of field
   b. Bracketing
   c. Panning
   d. Time sequences
8. Describe various photographic equipment accessories.
   a. Lights
   b. Lenses
   c. Filters
   d. Meters
   e. Tripods
   f. Copy stand
   g. Extension tubes
9. Demonstrate the proper use of various photographic equipment accessories.
   a. Lights
   b. Lenses
   c. Filters
   d. Meters
   e. Tripods
   f. Copy stand
   g. Extension tubes

6.2 TASK: Develop exposed film.

5. Develop exposed film.
   a. Load processing tank.
   b. Prepare necessary chemistry according to manufacturers specifications.
   c. Develop the film according to manufacturers specifications.

6.3 TASK: Produce photographic prints.

3. Describe darkroom procedures.

a. Make contact print.
b. Select image to enlarge.
c. Produce print
d. Evaluate print for proper exposure and development.

7.1 TASK: Produce a video presentation with the assigned guidelines.

4. Identify the following with regards to and that the video.
   a. Objective
   b. Audience
   c. Tone
   d. Style
   e. Format
11. Research additional possible video production techniques.
   a. Titling
   b. Interaction with computers
   c. Other

8.1 TASK: Layout a mechanical (pasteup) using traditional tools and methods.

3. Demonstrate the placement of components on the mechanical.
   a. Text
   b. Illustrations
   c. Photos
   d. Headlines
   e. Artwork
   f. Border tape
   g. Other

8.2 TASK: Create a page layout for a document utilizing electronic page layout software.

4. a. "Boot" applications software program.
   b. Initialize (format) storage disk for the appropriate disk operating system being used.
   c. Determine "master" page format.
   d. Place document components.
   e. Print draft copy.
   f. Proofread, revise and edit draft copy.
   g. Save the document on an formatted storage disk for future use.
   h. Print final copy.
   i. Demonstrate the correct procedure for shutting down a computer when a page layout program has been utilized.

9.3 TASK: Operate computer output devices.

4. Print using appropriate printers:
   a. Dot matrix
   b. Laser
   c. Daisy wheel
   d. Letter quality
   e. Other

10.1 TASK: Produce a document with a word processing program.

2. Explain the techniques required to:
   a. Edit text.
   b. Change type font for a given text.
   c. Change type style font for a given text.
   d. Check/correct spelling.
   e. Combine text and graphics.
   f. Alter margins and/or tabs.
3. Demonstrate the techniques required to:
   a. Edit text.
   b. Change type font for a given text.
   c. Change type style font for a given text.
   d. Check/correct spelling.
   e. Combine text and graphics.
   f. Alter margins and/or tabs.
5. Demonstrate the correct set-up and use of a computer driven printer.
   a. Dot-matrix
   b. Letter quality
   c. Laser printer.

10.2 TASK: Produce a CAD (Computer Aided Drafting) document (drawing).

1. Create a preassigned drawing using proper CAD drawing/drafting techniques.
2. Explain the use of the various tool palettes.
   a. Selection Pointer.
   b. Text Tool.
   c. Perpendicular Lines Tool.
   d. Diagonal Lines Tool.
   e. Rectangle Tool.
   f. Round-Corner Rectangle Tool.
   g. Circle Tool.
   h. Arc Tool.
   i. Freehand Shape Tool.
   j. Polygon Tool.
   k. Other
3. Demonstrate the use of the various tool palettes.
   a. Selection Pointer.
   b. Text Tool.

c. Perpendicular Lines Tool.
d. Diagonal Lines Tool.
e. Rectangle Tool.
f. Round-Corner Rectangle Tool.
g. Circle Tool.
h. Arc Tool.
i. Freehand Shape Tool.
j. Polygon Tool.
k. Other

4. Explain the use of the various CAD menus.
   a. File.
   b. Edit.
   c. Font.
   d. Layout.
   e. Arrange.
   f. Fill.
   g. Lines.
   h. Pen.
   i. Other

5. Demonstrate the use of the various CAD menus.
   a. File.
   b. Edit.
   c. Font.
   d. Layout.
   e. Arrange.
   f. Fill.
   g. Lines.
   h. Pen.
   i. Other

10.3 TASK: Prepare a spreadsheet.

8. Demonstrate the correct set-up and use of a computer driven printer.
   a. Dot-matrix
   b. Letter quality
   c. Laser printer.

10.4 TASK: Utilize a database for organizing and retrieving data.

6. Demonstrate the correct set-up and use of a computer driven printer.
   a. Dot-matrix
   b. Letter quality
   c. Laser printer

MODULE 11.0 TRADE CUSTOMS

11.1 TASK: Gain an understanding of the common trade customs in the

Graphic Design Industry.

1. Research and analyze the copyright laws as they apply to the following areas:
   a. Printed materials
   b. Electronic materials
   c. Software
   d. Hardware
   e. Personal liability
2. Apply proper proofreading techniques:
   a. Spelling
   b. Punctuation
   c. Alignment of elements
   d. Proofreading marks

Reference List

The Complete Hypercard Handbook..... Danny Goodman
Version 2.0
Bantam Books
666 Fifth Ave.
New York, NY 10103

Computer Aided Publishing..... Dr. Jane Liedtke
Activity Manual
CAP Project Director
Department of Industrial
Technology
Illinois State University
Normal, IL 61761

Computer Applications and Concepts..... Dr. Nancy Groneman
2nd Edition
Emporia State University
Emporia, Kansas
and
Susan Jaderstrom
Santa Rosa Junior College
Petaluma, California

Desktop Publishing Bible..... Macmillan
Publishing Company
P.O. Box 7777 W8775
Philadelphia, PA 19175

Desktop Publishing..... Microsoft Press
Aldus Pagemaker Edition
1 Microsoft Way
Redmond, Washington 98052-6399

Desktop Publishing In The Bag..... Sandra L. Barefield
Berrien Springs, Michigan 96735-6546

Desktop Publishing Using Pagemaker..... Wm C. Brown Publishers
2460 Kerper Blvd.
Dubuque, IA 52001

Desktop Publishing Using Pagemaker..... Tom Brownell
Workbook/tutorial
Director, Technical Writing Program
Department of Languages/Literature
Big Rapids Michigan 96756-3455

Hypercard Authoring Tool..... Dennis Myers & Annette Lamb
Manual
Career Publishing Incorporated
910 N. Main Street
Orange, CA 92667

Graphic Communications.....	Goodheart-Willcox 123 W. Taft Drive South Holland, Il 60473
Using Hypercard..... From Home To HyperTalk	Tay Vaughan QUE Corporation Carmel, Indiana

Software Resources

Aldus Illustrator	Aldus Corporation 411 First Avenue South Seattle, WA 98104 or Local Computer Store
AutoCAD	Autodesk Saulsalito, CA 94965
DesigCAD	American Small Business Computers, Inc. 327 South Mill Street Pryor, OK 74361
EasyCAD 2	Evolution Computing 437 South 48th Street, Suite 106 Tempe, AZ 85281 (602) 967-8633 or Local Computer Store
Educorp	EDUCORP 7434 Trade Street San Diego, CA 92121-2410 FAX 1-619-536-2345 or Local Computer Store
GenericCAD	Autodesk Saulsalito, CA 94965
HyperCard	Claris Corporation 5201 Patrick Henry Drive Box 58168 Santa Clara, CA 95052-8168
IBM Linkway	International Business Machine Corporation P.O. Box 2150 Atlanta, GA 30055 or Local Computer Store

MacDraft..... Innovative Data Design, Inc.
2280 Bates Avenue, Suite A
Concord, CA 94520
(415) 680-681ℰ
or
Local Computer Store

MacPaint..... Claris Corporation
5201 Patrick Henry Drive
Box 58168
Santa Clara, CA 95052-8168
or
Local Computer Store

Microsoft Paintbrush..... Microsoft Corporation
16011 NE 36th Way
Box 97017
Redmond, WA 98073-9717
or
Local Computer Store

Microsoft PowerPoint..... Microsoft Corporation
16011 NE 36th Way
Box 97017
Redmond, WA 98073-9717
or
Local Computer Store

Microsoft Works..... Microsoft Corporation
16011 NE 36th Way
Box 97017
Redmond, WA 98073-9717
or
Local Computer Store

Publish It II, ... Hearlihy & Company
714 West Columbia Street
P.O. Box 869
Springfield, OH 45501
or
Local Computer Store

SuperPaint..... Aldus Corporation
411 First Avenue South
Seattle, WA 98104
or
Local Computer Store

Equipment

Computer.....Apple Macintosh
IBM or Compatible
Commodore Amiga
(Note: all computers need a hard drive, 1 MB RAM min., monitors as needed, the faster the processor of the computer the better)

Printer.....Laser or Dot matrix

Scanner .....Hand held, Flatbed, Video

CD-ROM..... Any brand

Modem.....Any brand (1200 Baud min.)

Plotter.....Any brand

Video Capture Card.....Brand to match computer

Video Equipment.....Any brand
- -Recorders
- -Camcorder/Camera
- -TV/Monitor
- -Laserdisk Player
- -LCD Overhead projector
- -Various cables and connectors
- -Optional:
  - -Editing Equipment
  - -Titling Equipment
  - -Mixing Equipment (audio/video)
  - -Music Production